IN THE CLAIMS

Claims 6-9, 23-25, and 30-33 remain in the application. Claims 6, 23, and 30 have been amended with non-narrowing amendments. Claims 1-5 and 26-29 have been canceled. No claims have been added.

1-5.   (Canceled)

6.   (Currently Amended) A computer implemented method comprising:

maintaining a first set of information for a first layer 3 <u>virtual private network</u> ~~VPN~~ (<u>VPN</u>~~virtual private network~~), the first set of information for including a first value identifying the first layer 3 VPN;

separately maintaining a second set of information for a second layer 3 VPN, the second set of information for including a second value identifying the second layer 3 VPN, wherein the first and second sets of information corresponds to a first and second customers accessing a backbone and maintained within a single network element of the backbone, and wherein the first and second sets of information include sufficient information to establish the first and second layer 3 VPNs with other network elements of the backbone for the first and second customer respectively;

associating the first value with a first route distinguisher;

associating the second value with a second route distinguisher; and

maintaining a single <u>exterior gateway protocol</u> ~~EGP~~ (<u>EGP</u> ~~exterior gateway protocol~~) table for the first and second layer 3 VPNs.

7.   (Original) The computer implemented method of claim 6 further comprising:

separately maintaining a third set of information for a non-VPN customer, the third set of information for including a third value identifying the non-VPN customer; and

maintaining a second EGP table for the non-VPN customer.

8.   (Original) The computer implemented method of claim 6 further comprising:

maintaining a first routing table for the first layer 3 VPN;

maintaining a second routing table for the second layer 3 VPN;

updating a set entries for the first layer 3 VPN in the single EGP table, each of the
set of entries indicating the first route distinguisher;

mapping the first route distinguisher to the first value; and

indicating the mapped first value in communication about the updated set of entries.

9.   (Original) The computer implemented method of claim 6 further comprising:

maintaining a data structure for the single EGP table, the data structure indicating
the association between first value and the first route distinguisher and
between the second value and the second route distinguisher; and

performing mappings between the first value and the first route distinguisher and
between the second value and the second route distinguisher with the data
structure.

10-22. (Canceled)

23.   (Currently Amended) A machine-readable medium that provides instructions,
which when executed by a set of one or more processors, cause said set of processors to
perform operations comprising:

maintaining a set of information for a first layer 3 virtual private network VPN
(VPN virtual private network), the first set of information for including a
first value identifying the first layer 3 VPN;

separately maintaining a second set of information for a second layer 3 VPN, the
second set of information for including a second value identifying the
second layer 3 VPN, wherein the first and second sets of information
corresponds to a first and second customers accessing a backbone and
maintained within a single network element of the backbone, and wherein
the first and second sets of information include sufficient information to
establish the first and second layer 3 VPNs with other network elements of
the backbone for the first and second customer respectively;

associating the first value with a route distinguisher RD (RD first route
distinguisher);

associating the second value with a second RD;

maintaining a data structure to perform mappings between the first value and the
first RD and between the second value and the second RD; and

maintaining a single exterior gateway protocol EGP (EGPgateway protocol) table
for the first and second layer 3 VPNs.

24. (Original) The machine-readable medium of claim 23 further comprising:

separately maintaining a third set of information for a non-VPN customer, the third
set of information for including a third value identifying the non-VPN
customer; and

maintaining a second EGP table for the non-VPN customer.

25. (Original) The machine-readable medium of claim 23 wherein the mappings are
performed for communications about the single EGP table.

26-29. (Canceled)

30. (Currently Amended) A machine-readable medium that provides instructions,
which when executed by a set of one or more processors, cause said set of processors to
perform operations comprising:

maintaining a first set of information for a first layer 3 virtual private network VPN
(VPNvirtual private network), the set of information for including a first
value identifying the first layer 3 VPN;

separately maintaining a second set of information for a second layer 3 VPN, the
second set of information including a second value identifying the second
layer 3 VPN, wherein the first and second sets of information corresponds
to a first and second customers accessing a backbone and maintained within
a single network element of the backbone, and wherein the first and second
sets of information include sufficient information to establish the first and

second layer 3 VPNs with other network elements of the backbone for the

first and second customer respectively;

associating the first value with a first route distinguisher;

associating the second value with a second route distinguisher; and

maintaining a single <u>exterior gateway protocol</u> ~~EGP~~ (EGP ~~exterior gateway~~

~~protocol~~) table for the first and second layer 3 VPNs.

31.   (Original) The machine-readable medium of claim 30 further comprising:

separately maintaining a third set of information for a non-VPN customer, the third

set of information including a third value identifying the non-VPN

customer; and

maintaining a second EGP table for the non-VPN customer.

32.   (Original) The machine-readable medium of claim 30 further comprising:

maintaining a first routing table for the first layer 3 VPN;

maintaining a second routing table for the second layer 3 VPN;

updating a set entries for the first layer 3 VPN in the single EGP table, each of the

set of entries indicating the first route distinguisher;

mapping the first route distinguisher to the first value; and

indicating the mapped first value in communication about the updated set of entries.

33.   (Original) The machine-readable medium of claim 30 further comprising:

maintaining a data structure for the single EGP table, the data structure indicating

the association between first value and the first route distinguisher and

between the second value and the second route distinguisher; and

performing mappings between the first value and the first route distinguisher and

between the second value and the second route distinguisher with the data

structure.